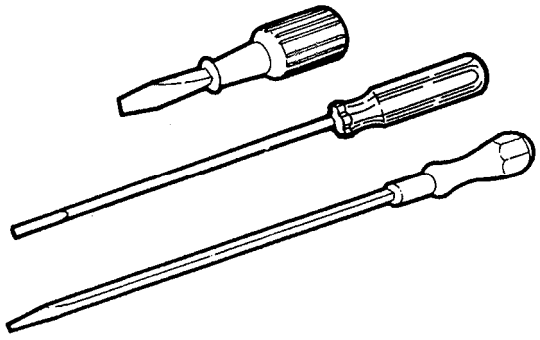
Chapter 22 SCREWDRIVERS

HOW TO CHOOSE AND USE THEM

The “Types and Uses” section provides you with a list of some of the types of screwdrivers. These pages should help you select the right screwdriver to do the job.

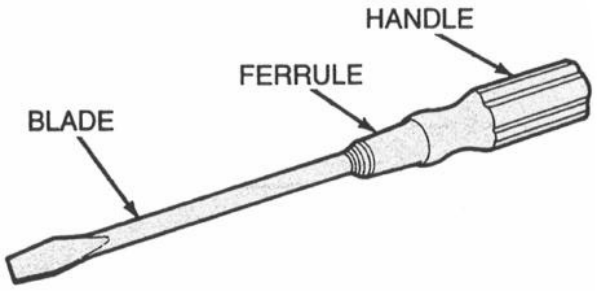
The “Using” section tells you how to use the screwdriver to perform the desired function. The “Care” procedures tell you how to care for the items.



INDEX

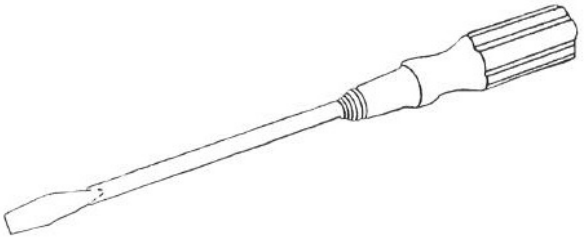
Item	*Page*
TYPES AND USES	22-2
Common screwdrivers	22-2
Cross-tip screwdrivers	22-3
Cross-point screwdrivers	22-3
Clutch head screwdrivers	22-3
Off set screwdrivers	22-3
Ratchet screwdrivers	22-4
Screwdriver bits	22-4
Jeweler’s screwdrivers	22-4
Flexible screwdrivers	22-4
Radio and pocket screwdrivers	22-5
Screw starter or gimlet	22-5
SAFETY	22-5
USING	22-5
CARE	22-8

TYPES AND USES

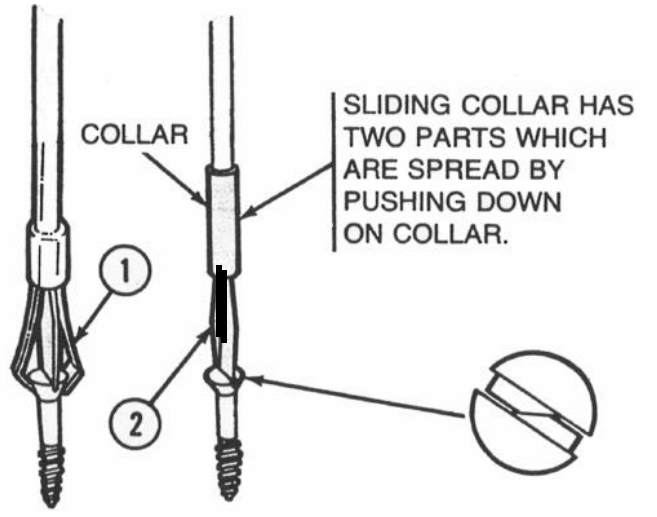


Screwdrivers are available in many different shapes, sizes, and materials. Screwdrivers are used for driving or removing screws or bolts with slotted, recessed, or special heads.

COMMON SCREWDRIVERS



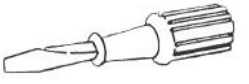
The common screwdriver has a round steel blade with a wood or plastic handle, usually fluted for a good grip. Integral blade screwdrivers are used for heavy-duty work.



Some common screwdrivers have a screw-holding feature. These are used for working in close quarters, overhead, and hard to reach places. The two most common types are the clip (1) and sliding collar (2). After the screw has been firmly started, switch to a conventional screwdriver to complete the job.

NOTE

Do not use sliding-cover, split-type screwdrivers for final tightening of screws.



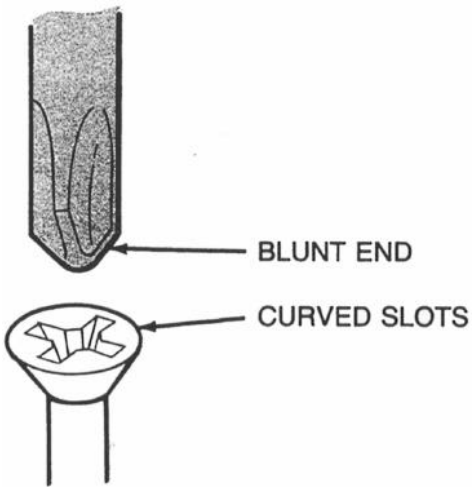
Close quarter or stubby common screwdrivers are used for working in close quarters where conventional screwdrivers will not fit.

Common cabinet screwdrivers have a thin, round blade and are used to reach and drive or remove screws in deep, counterbored holes.

Other common heavy-duty screwdrivers have square blades so a wrench can be used to turn them.

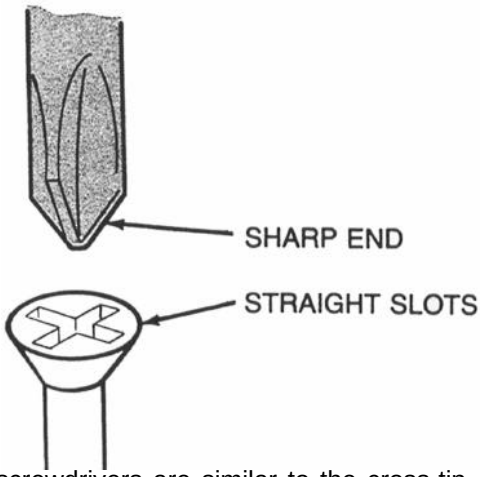
TYPES AND USES - Continued

CROSS-TIP SCREWDRIVERS



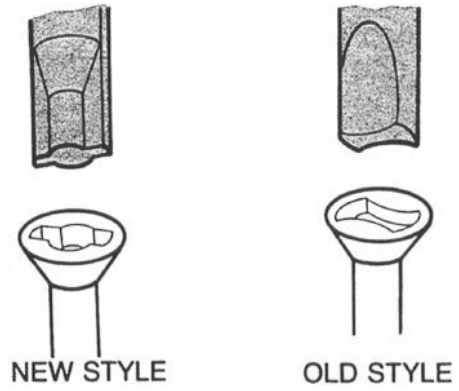
The tip of a cross-tip screwdriver is shaped like a cross so that it fits into cross-tip screws. Cross-tip screws have two slots which cross at the center. These screwdrivers are made with four different sized tips. Cross-tip screwdrivers also have different length blades ranging from 1 inch to 8 inches.

CROSS-POINT SCREWDRIVERS



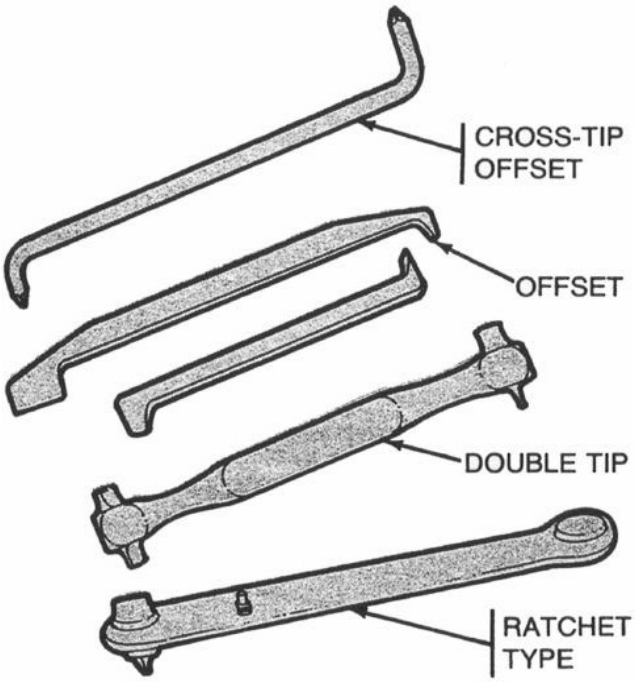
Cross-point screwdrivers are similar to the cross-tip. The cross-point slots meet at an exact right angle at their intersection. These screwdrivers are issued in 3 to 8-inch sizes.

CLUTCH HEAD SCREWDRIVERS



Clutch head screwdrivers are used to drive clutchbit screws. These screws have recessed heads and are commonly called butterfly or figure-eight screws. There are two styles of clutch heads, old style and new style.

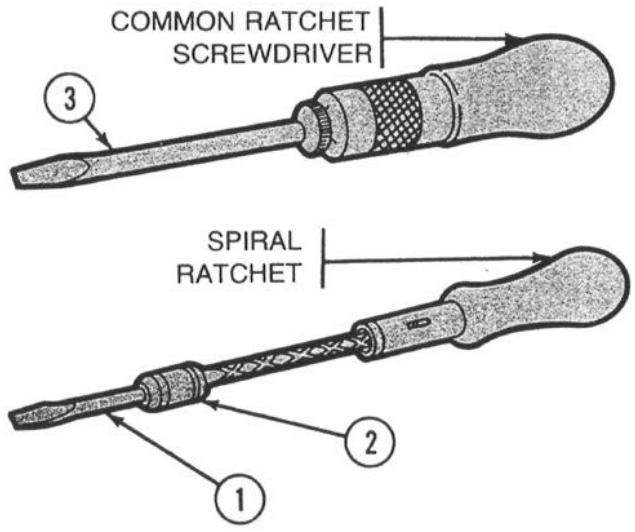
OFFSET SCREWDRIVERS



Offset screwdrivers are used to drive or remove screws that cannot be lined up straight with common screwdrivers, or are located in tight corners. Some offset screwdrivers are made with two blades, one of a different size at each end. Others are ratchet-type offset, which are reversible for working in tight spots and allow the screw to be driven without having to remove the tip from the screw head. A double-tip offset screwdriver has four blades.

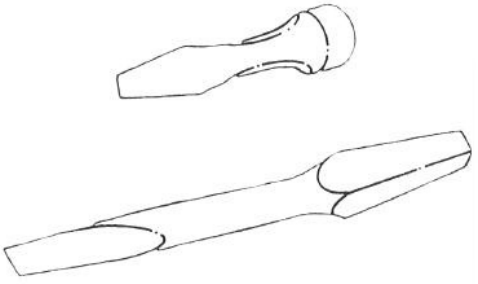
TYPES AND USES - Continued

RATCHET SCREWDRIVERS



Ratchet screwdrivers are used to drive or remove small screws rapidly. The spiral ratchet screwdriver automatically drives or removes screws. It can be adjusted to turn left, right, or locked to act as a common screwdriver. Some spiral ratchets have a spring in the handle which automatically returns the handle for the next stroke. Another style of ratchet screwdriver has a knurled collar for rotating the blade with your fingers. The spiral type has separate blades (1) that are inserted in the chuck (2). The common ratchet screwdriver has one integral blade (3).

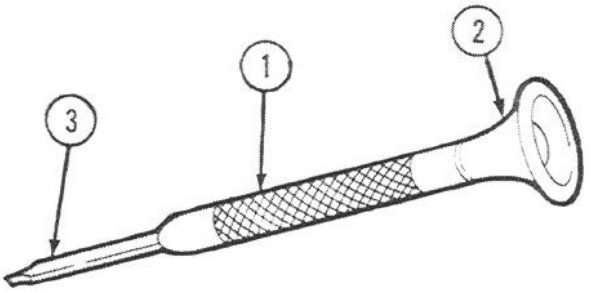
SCREWDRIVER BITS



A screwdriver bit is a screwdriver blade with a square, hex, or notched shank so that it can be used with other tools:

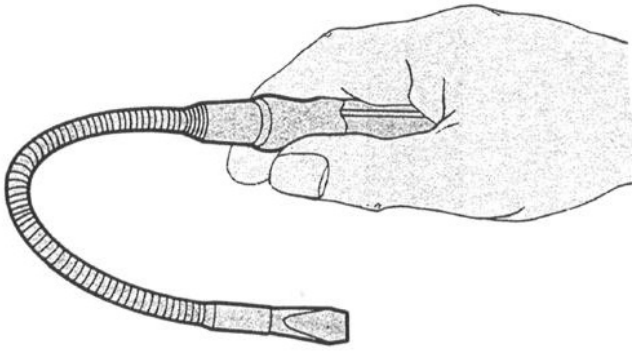
- Breast drill
- Ratchet bit brace
- Socket wrench handle

JEWELER'S SCREWDRIVERS



Jeweler's screwdrivers are made for driving and removing small size screws. They usually have knurled handles (1), and a swivel end finger rest plate (2). The tips (3) range from 0.025 inch to 0.1406 inch wide. Some jeweler's screwdrivers have removable blades.

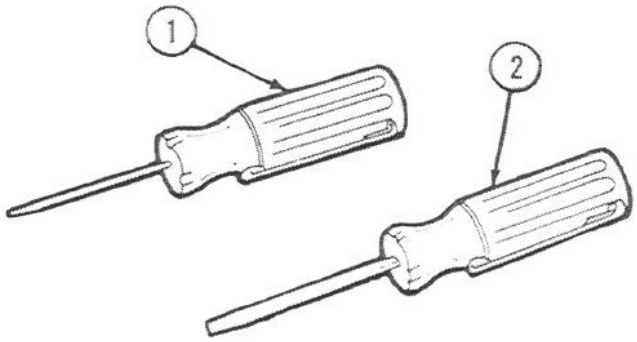
FLEXIBLE SCREWDRIVERS



A flexible screwdriver has a spring steel blade which bends, allowing the user to get around flanges, shoulders, and other parts to drive and remove screws.

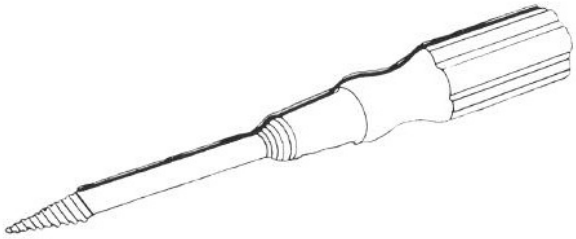
TYPES AND USES - Continued

RADIO AND POCKET SCREWDRIVERS



A radio screwdriver (1) has a round blade that is 1-1/2 inches long. Its use is restricted to very small screws generally used in the construction of radio chassis. The pocket screwdriver (2) is also small, with a square blade that is 1-3/4 inches long. Both have pocket clips.

SCREW STARTER OR GIMLET



A screw starter or gimlet has a threaded tip. It is used to make a pilot hole in wood for wood screws.

SAFETY

WARNING

HANDLE THE SCREWDRIVER CAREFULLY. A GREASY HANDLE COULD CAUSE AN ACCIDENT.

DO NOT CARRY A SCREWDRIVER IN YOUR POCKET UNLESS IT HAS A POCKET CLIP.

DO NOT USE A SCREWDRIVER FOR PRYING, PUNCHING, CHISELING, SCORING, OR SCRAPING.

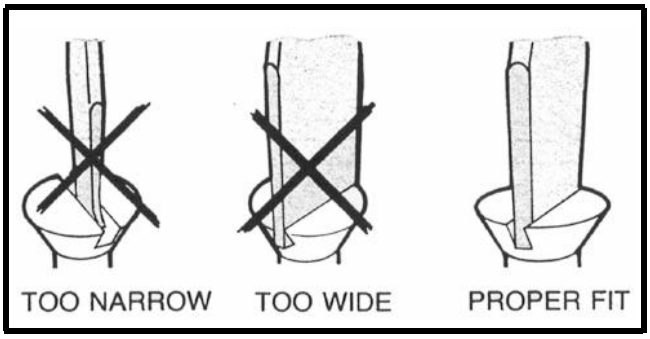
DO NOT USE A SCREWDRIVER NEAR A LIVE WIRE, TO CHECK A STORAGE BATTERY, OR TO DETERMINE IF AN ELECTRICAL CIRCUIT IS LIVE.

DO NOT HOLD THE WORK IN ONE HAND WHILE USING THE SCREWDRIVER WITH THE OTHER. IF THE SCREWDRIVER SLIPS OUT OF THE SLOT, YOU WILL BE MOST LIKELY TO PUT A GASH IN YOUR HAND.

USING SCREWDRIVERS

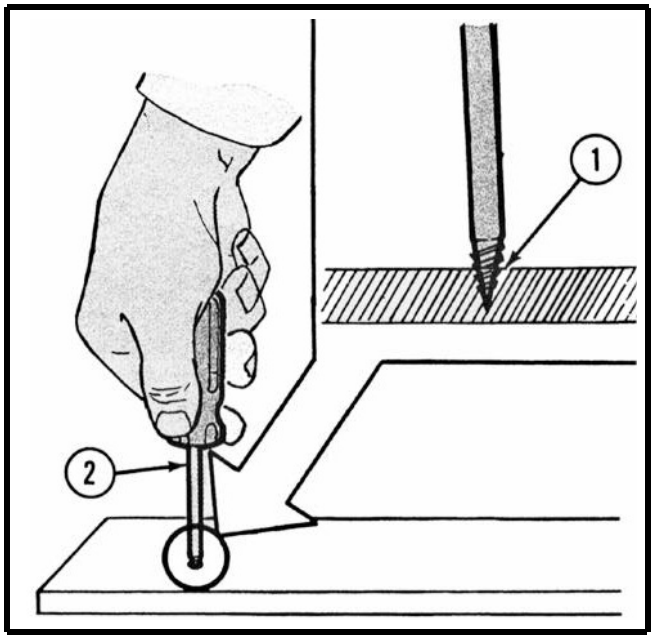
NOTE

The proper way to select and use a screwdriver is to always match the size of the screwdriver to the job and always match the type of screwdriver to the head of the screw.



USING SCREWDRIVERS - Continued

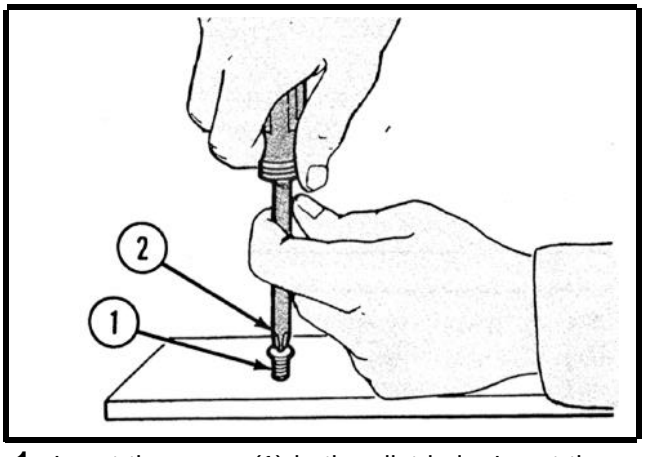
PREPARING THE WORK SURFACE



1 Before attempting to drive a screw into wood, you first make a pilot hole (1) using a screw starter (gimlet) (2), an awl, a nail, or a drill.

2 Before attempting to drive a screw into sheet metal you should make a pilot hole using a drill. However, lightweightsheet metal can bepierced with a nail or punch.

USING A SCREWDRIVER



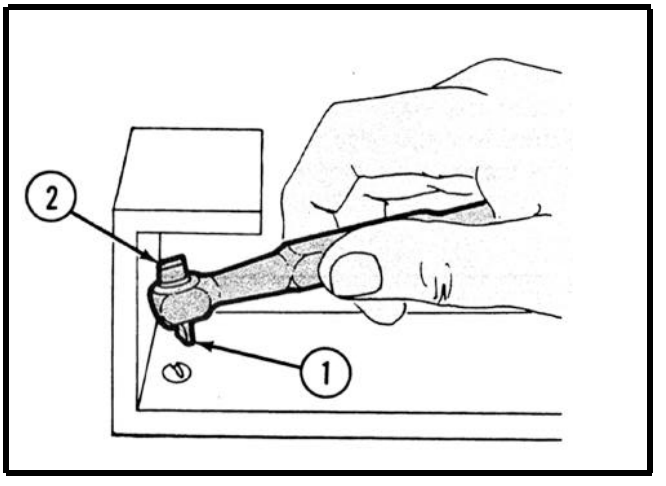
1 Insert the screw (1) in the pilot hole. Insert the screwdriver tip (2) in the screw slot of the screw as shown.

2 Keep the screwdriver in line with the screw as shown. You may want to use your other hand to keep the blade steady.

3 Turn clockwise to screw in, counterclockwise to unscrew.

4 Do not use a pliers to turn the screwdriver when driving or removing screws that are hard to turn. For hard-to-turn screws, use a square blade screwdriver designed for heavy-duty work and a wrench which properly fits the blade.

USING AN OFFSET SCREWDRIVER



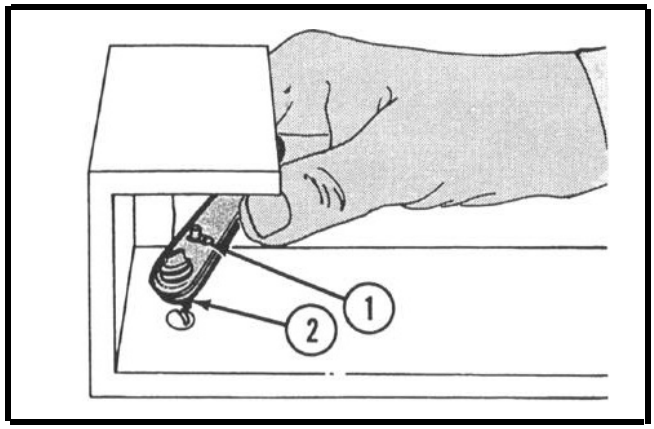
1 Select the correct style and tip size for the screw being used.

2 Insert the tip (1) in the screw slot.

3 In tight places you may have to alternate tips (1 and 2) to complete turning the screw.

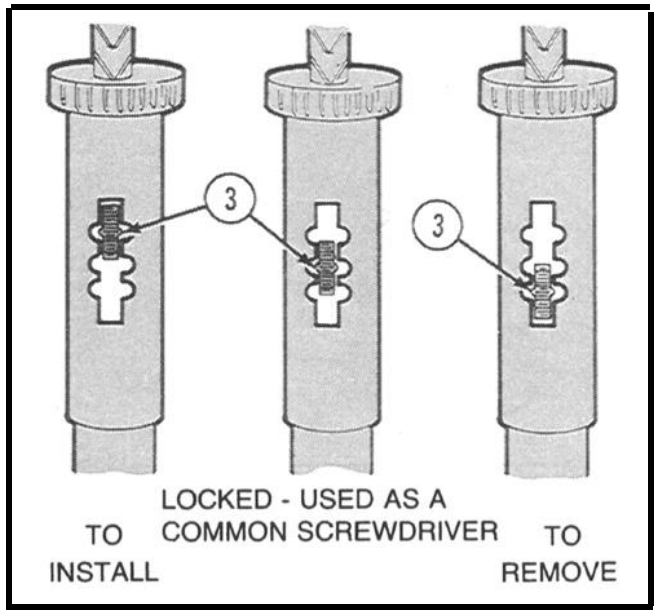
USING SCREWDRIVERS - Continued

USING AN OFFSET RATCHET SCREWDRIVER



1 Select the correct size tip for the screw head.

Pull the lever to the right or left, for installation or removal of the screw. This allows the screw to be driven without having to remove the tip from the screw head.

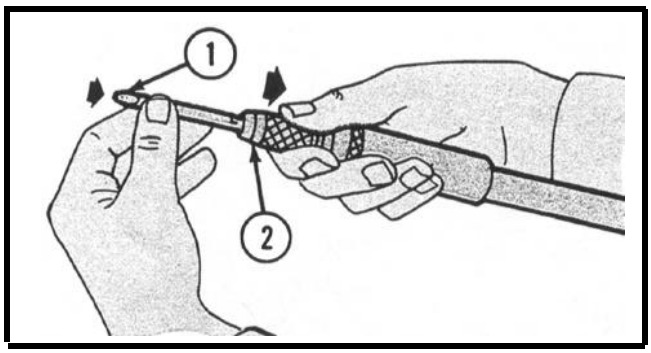


3 Set selector lever (3) as shown.

USING A SPIRAL RATCHET SCREWDRIVER

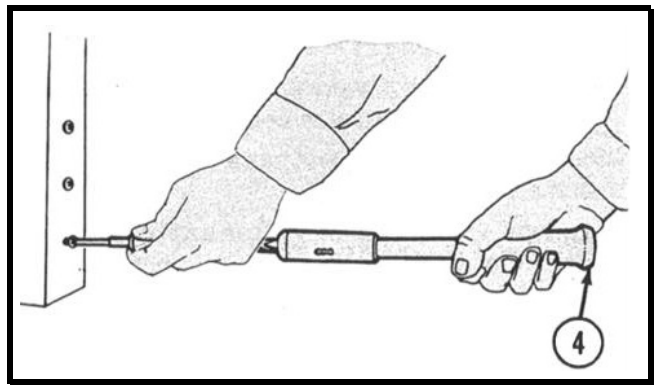
NOTE

These screwdrivers come in several styles. Some have the different size bits stored in the handle.



1 Select the correct size tip for the screw head being used.

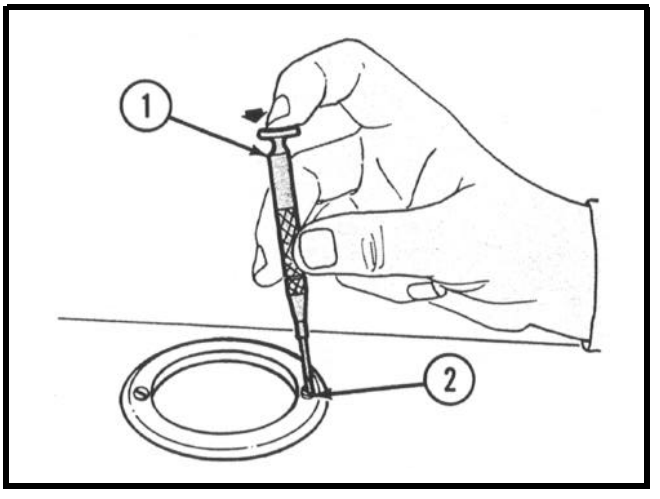
2 Install tip (1) in screwdriver by pulling back on metal shell (2). When tip is seated, release the shell to lock it into place.



4 Insert the tip in the screw slot. Hold the screwdriver blade as shown. Move handle (4) back and forth to install or remove a screw.

USING SCREWDRIVERS - Continued

USING A JEWELER'S SCREWDRIVER



1 Hold screwdriver as shown, with forefinger on rotating head (1).

CAUTION

Be sure the screwdriver fits the screw. If the screw is too large for the screwdriver tip, the tip will be damaged.

2 Insert the tip of the screwdriver in the screw slot (2). Turn the screwdriver, between the thumb and middle finger, clockwise to screw in, counterclockwise to unscrew.

CARE OF SCREWDRIVERS

1. When a screwdriver becomes nicked, or the edges become rounded, or when other damage occurs so that it does not fit a screw slot, it can be reground or filed. The sides must be parallel to keep the tool from lifting from the screw slot and the tip must be square, at right angles to the sides and to the blade.
2. Do not expose a screwdriver to excessive heat, as it may reduce the hardness of the blade.
3. Replace a screwdriver that has a worn or damaged handle or rounded tip.
4. After use, wipe screwdriver clean and place in rack or tool box. For long-term storage, apply rust-preventive compound to all metal surfaces and store in a dry place.
5. Screwdrivers used in the shop are best stored in a rack. This way the proper selection of the right screwdriver can be quickly made and fewer injuries will result.
6. A poor fitting screwdriver will damage the screw head, slip off the screw, and cause personal injury. Use a screwdriver that has parallel sides and exactly fits the screw slot.
7. Never pound on a screwdriver with a hammer. Do not use a screwdriver as a chisel.